



# MEMORANDUM

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TO: City of Lee's Summit Engineering Department

FROM: Ronald L. Cowger, PE (AGC Engineers, Inc)

RE: Stormwater Detention Memo

Lot 3, Oakview

Lee's Summit, Missouri

DATE: August 18, 2021

This memorandum is to compare the previously approved Final Stormwater Management Plan prepared by Schlager & Associates, PA (dated July 20, 2018) to the proposed site development plan for Lot 4, Oakview.

All of Lot 3, Oakview drains to the Southwest [underground] Detention Basin. The proposed Lot 3 improvements are generally consistent with the originally proposed improvements with overall curve numbers less than 1% difference from the previously approved Final Stormwater Management Plan (STUDY). The Lot 3 CN is approximately 92.5 while the STUDY used a CN of 92 globally for the entire 3.06-acre watershed. This minor increase in CN is offset by the time of concentration increase from that used in the STUDY; thereby, decreasing the peak runoff. The STUDY utilized a Tc equal to 5 minutes, the master development construction plans prepared by Schlager & Associates used 5.9 minutes for the enclosed pipe system. We estimate a Tc equal to 7 minutes to the Southwest Detention Basin.

Comparison runoff calculations (based on the entire 3.06-acre drainage area):

## STUDY

Tc = 5 min --> I = 10.3 CN 92  $Q_{100} = 32.18 \text{ cfs}$

## Tc based on Schlager Storm Pipe Calculations

Tc = 5.9 min --> I = 10.0 CN 93.5  $Q_{100} = 32.52 \text{ cfs}$

## Proposed Lot 3, Oakview calculations

Tc = 7 min --> I = 9.6 CN 92.5  $Q_{100} = 30.84 \text{ cfs (less than the STUDY)}$

Please advised if you have any questions or comments regarding the above responses.

